



356914

Date: November 3, 1987

Attn: William D. Franz, Chief
Environmental Review Branch

Subject: Review of the Installation Restoration Program
Phase II/IVA Site Assessment Report- Scott AFB,
Illinois.

From: Claude R. Brogunier, Environmental Engineer
ERB

Overall, the QAPP (Project Plan) looks fine, as does the Work Plan document. However, there are a few elements of the Work Plan which should be addressed by the other review divisions before it leaves EPA. These are itemized below;

1) THE PROPOSED SAMPLING PROGRAM:

In the determination of where to sample, how many wells to use, and at what depths sampling should be done, a number of criteria should be employed:

- a) Quantities of waste generated (predict infiltration potential),
- b) Waste types (hydrophobicity, biodegradability, etc),
- c) Frequency of waste disposal (predict infiltration potential since this should be retarded by evaporative action at low disposal rates),
- d) Known hydrologic (surface and ground) flows,
- e) Latest disposal date (will determine, in part, how far the plume may have migrated).

Considering the large volumes of liquid wastes intentionally dispersed on the ground, the high frequency of intentional dispersal, and the long time lapse since the last dumping (activities ceased at FPTA's #1 and 2 in the '50s), the likelihood of a displaced and migrating plume is significant.

Suggest that ERM try to get a rough estimate of both groundwater direction and flow BEFORE laying down a well placement plan. In the event that this is not possible in the time frame allowed, we should insist on additional wells and sediment samples in the following areas:

Note: In making these recommendations, the stormwater runoff documentation and maps were useful in identifying potential pollutant collection areas around the base which have proximity to the waste sites.

SITE	POTENTIAL COLLECTION AREA	RECOMMENDED ACTION
FPTA- No. 1	No. Ditch	Sediment samp.
FPTA- No. 2	Mosquito Creek	Sediment samp.
SPILL 8550	So. Ditch	Sediment samp.
SPILL 1965 (continuous leak)	Ash Creek	Sediment samp. & monitor wells
LANDFILL	So. boundary of LF	Monitor wells
	No. boundary of Mosquito Ck.	Monitor wells

- 2) Coordination of construction of access roadways and other large-scale activities with the anticipated runway expansion which will be occurring concurrently. Need to see Jerri about this.
- 3) Improved organization of the proposed Technical Evaluation of the alternatives. The alternatives which pass the initial Technical Screening stage (based upon effectiveness, implementability, and cost) should each be evaluated further in more depth. At this stage, ERM should state explicitly which evaluation criteria are going to be used to evaluate each Response Objective. ERM presented a diffuse, bird-shot description of how the evaluation criteria were to be organized in order to rigorously pursue Response Objectives.
- 4) The Technical Evaluation of the proposed technologies should include lab-scale studies at a minimum if chemical or biological treatment is proposed. No mention of lab tests.
- 5) Recycling/Minimization-based Alternatives:
According to 40 CFR: 300.68(f)(2), "alternatives shall consider and integrate waste minimization, destruction, and recycling". No mention of this.
- 6) Aquifer Protection:
At landfill drilling, what precautions will be taken in order to ensure that deep water and/or water table aquifers do not cross-contaminate each other as a result of positive displacement caused by hydrostatic head (i.e. flow of contaminated water, via well, from one aquifer to the other).
- 7) Need lead analyses done at all FPTA's and Spill 8550. The proposed analyses for these sites did not include lead

tests.

- 8) The proposal that "monitoring wells will only be installed if contamination detected in soil borings" is certainly suspect for lack of thoroughness. Maybe Water Division can comment on this type of criteria for well drilling. Under the circumstances, it would be difficult to be comfortable about leaving a site that comes up negative only on 15 and 20 foot soil borings.

Date: November 3, 1987

Attn: William D. Franz, Chief
Environmental Review Branch

Subject: Review of Sandstone Federal Correctional Institution
Preliminary Assessment (Hazardous Waste Disposal
Survey)

From: Claude R. Brogunier, Environmental Engineer
Environmental Review Branch

A. INTRODUCTION

I've familiarized myself with the appropriate Federal Superfund legislation regarding preliminary assessment, remedial investigation, and feasibility study requirements. These are specified in 40CFR Sections 300.64 and 300.65. Below is a breakdown of apparent deficiencies in the Sandstone preliminary assessment (PA).

B. LEGISLATION

According to Section 300.64, Subchapter J, a PA shall include,

- 1) Evaluation by the Health and Human Services (HHS) or by other sources (State health agencies) of the threat to public health,
- 2) Evaluation of the magnitude of potential threat, and
- 3) Evaluation of the factors necessary to make a determination of whether a removal is necessary.

In Section 300.65(b)2, it is stated that the following factors shall be considered in determining the appropriateness of a removal action (i.e. in order to fulfill item 3 above);

- i) Actual or potential exposure to hazardous substances or pollutants or contaminants (HSPC) to nearby populations, animals, or food chain,
- ii) Actual or potential contamination of groundwater systems,
- iii) Hazardous substances in drums, barrels, or tanks that may pose threat of release, and

- iv) High levels of hazardous substances at or near surface of soil which may migrate.

C. DEFICIENCIES

The PA falls short on three main points;

- 1) There was no participation of health officials in the evaluation (see App. B),
- 2) There was no evaluation of the magnitude of potential threat (this element requires a comprehensive look at waste quantities, groundwater flow rate and direction, mobility of the chemicals involved- all of these were not addressed),
- 3) There was incomplete evaluation of the factor's necessary for removal determination.

D. SPECIFIC PROBLEMS

1. No documentation of ground water flow rate and direction.
2. No documentation of tests conducted for the underground storage tanks,
3. Two storage tanks were inadequately described (above or underground?),
4. Poor description of the spatial relationship between the disposal sites and the geologic/hydrologic character of the area.
5. Site 3 merits further study- ash from printing operations was not addressed (contains lead, obviously) in terms of threat.
6. Site 4 needs more description- there is transformer storage here (no mention of PCB's though).
7. There was no appraisal of the condition of the underground storage tanks.

Bill,
FROM CLAUDE

Duane C. Helmberger, PE
Deputy Director
Environmental Planning Division
Department of the Air Force
Regional Civil Engineer-Central Region
1114 Commerce Street
Dallas, Texas 75242

Dear Mr. Helmberger:

The Region V Office of the U.S. Environmental Protection Agency (USEPA) has reviewed the Installation Restoration Program (IRP) Stage 2 Draft Work Plan for the Scott Air Force Base (AFB) located near East St. Louis, Illinois.

As you are aware, sources of waste at Scott AFB include industrial operations (shops), waste storage areas, fuels management, spills and leaks, pesticide use, and fire protection training. Eight sites were identified for contamination confirmation studies. They include the base landfill, two fuel facility spill sites, a fuel tank sludge weathering lagoon, three fire protection training areas (FPTA's), and an old dental clinic. Contamination of concern at these sites are primarily petroleum hydrocarbons, but contaminants at the landfill include paint, pesticides, possible PCB's and assorted drums of unknown contents. The old dental clinic is a possible source for mercury contamination. ^{is what?}

Surface drainage from the facility is intercepted by a series of ditches which discharge into Silver and Ash Creeks, and by the creeks themselves. Waste water is collected at a central facility and discharged, after treatment, under an NPDES permit ^{spill out}

As part of the Domestic and Water Supply Well Inventory, the wells should be sampled and current depths to water recorded. Water table data from these wells should be consolidated with that from monitoring wells installed during the study to provide a picture current subsurface flow patterns, instead of patterns in existence at the time of well installation. ^{for what study?} *Continued to do?*

The Work Plan states that, because of the proximity of FPTA #2 to the landfill, the two will be considered as one site for the purpose of well placement. Of the four wells detailed in this section to monitor FPTA #2, only two wells appear to be close enough to give ground water data representative of that site, and neither of these wells is located in the assumed down-gradient direction (southeast). Because these two sites are located over the most prolific ground water supply in the area (Silver Creek Alluvium), ^{an additional} one more well should be installed southeast of FPTA #2 to determine if contaminants are migrating toward South Ditch, which drains to Silver Creek. ^{whether or not}

In terms of waste classification; the landfill which has waste disposed in it by the trench and fill method can be classified as a Class SW20, or industrial process water and waste disposal well, since it is wider (in one dimension) than it is long, and disposes of waste water treatment sludge. ^{whose system?}

(ok that's fine where does it lead is this bad should it be charged down w/ additional monitoring?)

For the Facility 8550 Spill Site, private well number 17 (fig. 3-11) is ^{so} close to this site that it should be sampled for petroleum hydrocarbons. frequency?? It found the what at what levels would we concerned.

For the Facility 1965 Spill Site; if, as the study assumes, ground water flow in the surficial deposits is to the southeast, at least one well should be installed along that orientation from this site. Figure 5-5 has none located there.

Thank you for the opportunity to review the document. If you have any questions concerning our comments, please contact ~~Ms. Amy Blumberg~~ of my staff at (312) ~~986-7342~~ or (ETS) ~~886-734~~ ³⁵³⁻ or myself at 886 7800.
Claud Brogenia.

Sincerely yours,

William D. Franz, Chief
Environmental Review Branch
Planning and Management Division

CC: Christiane Sando SWG.

Do we want the Air Force to do more work to determine groundwater flow direction. We may want to recommend this

6-2466

Duane C. Helmberger, PE
Deputy Director
Environmental Planning Division
Department of the Air Force
Regional Civil Engineer-Central Region
1114 Commerce Street
Dallas, Texas 75242

Dear Mr. Helmberger:

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(polychlorinated by ponds?)

Surface drainage from the facility is intercepted by a series of ditches which discharge ~~into Silver and Ash Creeks~~, and by the creeks themselves. Wastewater is collected at a central facility and discharged, after treatment, under an National Pollutant Discharge Elimination System (NPDES) permit ~~into~~

Excluded You should include

As part of the Domestic and Water Supply Well Inventory, ~~the wells should be sampled for current depths-to-water records. Water table~~ data from these wells should be consolidated with that ~~from monitoring~~ ^{other} information monitoring wells installed during the study to provide current subsurface flow patterns, instead of ~~(patterns in existence at the time of well installation.~~

grand water studies

The Work Plan states that, because of the proximity of FPTA #2 to the landfill, the two will be considered as one site for the ~~purpose of well placement. Of the four wells detailed in this~~ ^{work plan indicates that} section to monitor FPTA #2, only two wells appear to be close enough to give ground water data representative of that site, and neither of these wells is located in the assumed down-gradient direction (southeast). Because these two sites are located over the most prolific ground water supply in the area (Silver Creek Alluvium), an additional well should be installed southeast of FPTA #2 to determine whether or not contaminants are migrating toward South Ditch, which drains to Silver Creek. The main concern ~~here is the~~ ^{to determine whether the FPTA #2 has any and is contributing} potential for ground water contamination. The additional well will help remove ambiguity as to the source of ^{any} contamination (landfill vs. FPTA #2) which may arise during sampling ~~of the proposed well~~

work plan indicates that

will be installed

How ever based upon the information provided

to determine whether the FPTA #2 has any and is contributing

the ground water below

~~located 500 feet southeast of FPIA #2.~~

? In terms of waste classification, the landfill which has waste disposed in it by the trench and fill method can be classified as a Class 5W20, or industrial process water and waste disposal well, since it is wider (in one dimension) than it is long, and disposes of waste water treatment sludge.

For the Facility 8550 Spill Site, private well number 17 (fig. 3-11) is so close to this site that it should be sampled initially for all petroleum hydrocarbons appearing on the Hazardous Substances List. Any recommendations regarding use of alternative drinking water supplies by nearby residents will be based upon the analytical lab results of these samples. *we would be willing to review the data*

For the Facility 1965 Spill Site; if, as the study assumes, ground water flow in the surficial deposits is to the southeast, at least one well should be installed along that orientation from this site. Figure 5-5 ~~has none~~ located there. *to provide an indication regarding of any groundwater contamination*
does not show any monitoring wells along this axis.

Thank you for the opportunity to review this document. If you have any questions concerning our comments, please contact Claude Brogunier of my staff at (312) 353-6704 or myself at 886-7500.

Sincerely yours,

A
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William D. Franz, Chief
Environmental Review Branch
Planning and Management Division

cc: Christiana *Sandra, SWC*
~~Sandra, SWC~~